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September 28, 2001

Mr. Gary Curtis
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Re: Comments to DOE's Proposed Revisions to Energy Star Window Criteria

Dear Mr. Curtis:

I have been authorized to express the following comments on behalf of Pilkington North America, Inc., PPG Industries, Inc. and AFG Industries, (referred to in this letter for simplicity as the "Three Glass Manufacturers" or "TGM") to the two-step changes that have been proposed to the criteria for the Energy Star Window and Door Program as outlined in William Noel's letter of August 31, 2001 ("DOE Proposal"). Consistent with our e-mail exchange, I appreciate your willingness to receive and consider these comments through September 28, 2001.

As you know Gary, all Three Glass Manufacturers have been directly involved in various discussions on revisions to Energy Star Windows. As background for this level of interest, the TGM represent over 60% of the glass sold into the residential market, including a wide range of energy efficient products.

The TGM have reviewed the Step 1 and Step 2 proposed revisions to Energy Star Windows and have achieved a technical consensus that DOE's proposed revisions are not beneficial and, therefore, the TGM urges DOE to consider the alternative proposals which are outlined in the attached Appendix. The consensus reached by the TGM regarding the proposed revisions is as follows.

Step 1 of DOE's Proposal is unacceptable. It will increase energy consumption and contrasts significantly from the International Energy Conservation Code ("IECC) relative to the 2000 HDD line for the "Central" geographical region of the United States.

September 28, 2001

Page 2

As an alternative, the TGM proposes a Step 1 revision that will result in energy savings and be consistent with the IECC relative to energy conservation requirements and geographical divisions.

Regarding Step 2 of the DOE's proposal, the TGM is opposed to the single U-factor / SHGC limit for the entire USA. Whereas, such an approach can easily be applied to household appliances, it is simply unrealistic and, quite frankly, detrimental as a vehicle to promote energy conservation and the use of renewable energy sources in the diverse weather environments found across the United States.

We would particularly encourage DOE to reconsider its proposal to apply the IECC's most severe, southern region SHGC of 0.40 throughout all climatic regions of the United States. The application of such a SHGC limit value in the central U.S. and all of the northern U.S. is completely unjustified by any technical or engineering analysis. In that regard, the IECC imposes no such SHGC limitation on any region above 3,500 HDDs. Moreover, our calculations show that adherence to step 2 of DOE's Proposal will actually result in an increase in energy consumption in the north and central regions of the United States. Our calculations show that a typical new home in the northern region (above 6000 HDDs) will experience an annual reduction in energy consumption of 2.3 million Btu's if windows having a U-factor of 0.35 and a SHGC of 0.50 are used, rather than windows having a 0.35 U-factor and a 0.40 SHGC as outlined in step 2 of the DOE Proposal. Similarly, a new home in the central region (between 3500 and 6000 HDDs) would experience an annual reduction of energy usage of 1.1 million Btu's.

DOE's Step 2 Proposal is also completely inconsistent with the Congressional mandate resulting in the creation of the Energy Star Program. The Congressional objective is to increase energy efficiency and reduce the Country's dependence on non-renewable sources of energy. The adoption of a national SHGC of 0.40 will not advance either objective. While the 0.40 SHGC limit may reduce peak load demands during a few extreme days of heat in the summer, it will only do so at the expense of a significant increase in overall energy consumption throughout the remainder of the year.

As a result of the overall energy consumption increase, the TGM are completely and uniformly opposed to the second step of DOE's Proposal. It is not supported in any manner by the requirements of the IECC. Indeed, it has no technical justification at all. It will result in an increase in energy usage in the north and central regions of the United States. At the same time, it will reduce the benefits that can be derived from passive solar heat gain through the windows by homeowners in the central and northern regions of the United States. The TGM urges DOE to adopt our Step 2 proposal as set out in the attached Appendix.

September 28, 2001

Page 3

The TGM's proposals also meet or exceed all changes resulting from the adoption of Title 24 in California and the requirements of the IECC. They are technically sound and accomplish the twin objectives of the Energy Star Program, namely, energy conservation and encouraging the use of renewable energy sources.

We urge you to adopt the changes to the program articulated in the attached Appendix. If there remains major opposition from window manufacturer's regarding the proposed changes within the program over the next 15 months, then DOE should re-open the comment period relative to the second step of its proposal. If DOE is unwilling to extend the time necessary to hear additional industry concerns respecting the second step of its proposal, the TGM urges DOE to consider the TGM second step as articulated in the attached

Very truly yours,

Thomas S. Zaremba, on behalf of:

Pilkington North America, Inc., by Paul M. Gore
PPG Industries, Inc., by Al Lutz, and
AFG Industries, Inc. by Thomas J. Mewbourne

cc: William Noel,
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APPENDIX

Step 1 - Change in Energy Star Criteria

	U-factor	SHGC
Northern Region > 6000 HDD	0.35	Any
Central Region 3500 - 6000 HDD	0.40	0.55
Southern Region < 3500 HDD	0.50	0.40

U-factor and SHGC values represent maximum values

Step 2 - Change in Energy Star Criteria

	U-factor	SHGC
> = 3500 HDD	0.35	Any
< 3500 HDD	0.50	0.40

U-factor and SHGC values represent maximum values